



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,568	07/30/2003	Ko-Mai Li	CMDP0005USA	1567
27765	7590	05/30/2006	EXAMINER	
NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116			MILORD, MARCEAU	
			ART UNIT	PAPER NUMBER
			2618	

DATE MAILED: 05/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/604,568	LI ET AL.	
	Examiner	Art Unit	
	Marceau Milord	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Estes et al (US Patent No 6289204 B1) in view of Trikha et al (US Patent No 6072993) and Kommrusch et al (US Patent No 5584053).

Regarding claims 1-5, Estes et al discloses an RF transceiver module for wireless communication devices (figs. 2-3) comprising: a multi-layered substrate; an RF transceiver IC mounted on the multi-layered substrate for receiving and transmitting voice or data signals (col. 2, line 58- col. 3, line 30); at least one band selection filter mounted on the multi-layered substrate for filtering received RF signals; (col. 5, lines 52-65); a shielding via fence formed under the band selection filter for isolating high power RF signals produced by a power amplifier from the RF transceiver IC; a shielding ground plane formed one or two substrate layers beneath the transceiver IC for providing isolation between the embedded passive devices and the RF

Art Unit: 2618

transceiver IC; and a plurality of input, output, and grounding pads formed on the bottom of multi-layered substrate (col. 3, line 56- col. 4, line 47;col. 5, lines 52-65).

However, Estes et al does not specifically disclose the features of an antenna switch integrated in the multi-layered substrate which is capable of being switched to transmit RF signals generated by the power amplifiers to the external antenna or to receive RF signals from an external antenna to the RF transceiver IC through the band selection filter; and a plurality of passive devices embedded in the multi-layered substrate; wiring embedded in the multi-layered substrate for electrically connecting the passive devices, the RF transceiver, and the band selection filter.

On the other hand, Trikha et al, from the same field of endeavor discloses a portable radio transceiver selectively transmits and/or receives RF signals in two frequency bands and in two modes of operation. The radio transceiver selectively switches between two antennas for operating in either of the two modes, such as a handheld mode of operation using the transceiver's on-board antenna and battery, or a car mode of operation using an external antenna and battery (col. 2, lines 11-30). The radio transceiver includes a transmission circuit for carrying the RF signals to/from the first and second antennas. Further included is a plurality of switches for selectively switching reception/transmission of the RF signals between the first and second antennas. In addition, the radio transceiver has a tuning circuit that selectively presents the correct impedance to RF signals in each of the two frequency bands for signal reception/transmission carried out via the first or second antenna commonly coupled high frequency transmitting/receiving switching module (col. 4, lines 31-54;col. 5, lines 11-59).

Art Unit: 2618

Kommrusch et al also discloses a high frequency transmitting/receiving switching module in which the switching module has a transmitting circuit, a receiving circuit an antenna circuit an external circuit a coupling circuit and control circuits. The switching module may be switched between one of four circuit paths each path incorporating an integral harmonic filter. This structure is adapted for use in a multi-layer ceramic integrated circuit, and provides the advantage of minimizing current consumption with a minimal number of components. the switching module may be configured so that the desired signal is always coupled to the switched circuits through the common coupling circuit (col. 2, lines 11-55). The common coupling circuit has the advantage of substantially isolating the unswitched circuits from the switched circuits. More particularly, a first and second control circuit and an associated first and second control signal control the specific switched circuit path for the desired signal. The first and second control circuits each comprise a first and second leg (col. 3, line 32-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Kommrusch to the modified system of Trikha and Estes in order to provide a portable radio transceiver for operating in two frequency bands such that the radio transceiver receives/transmits RF signals via either its own antenna or via another antenna/port connected to the radio transceiver.

Regarding claim 6, Estes et al as modified discloses an RF transceiver module for wireless communication devices (figs. 2-3) wherein the band selection filter is a surface acoustic wave filter (col. 2, line 58- col. 3, line 30).

Art Unit: 2618

Regarding claim 7, Estes et al as modified discloses an RF transceiver module for wireless communication devices (figs. 2-3) wherein the SAW filter is in bare die form (col. 4, lines 4-24).

Regarding claim 8, Estes et al as modified discloses an RF transceiver module for wireless communication devices (figs. 2-3) wherein the SAW filter is in packaged form (col. 5, lines 46-65).

Regarding claim 9, Estes et al as modified discloses an RF transceiver module for wireless communication devices (figs. 2-3) wherein the RF transceiver IC is in bare die form (col. 4, lines 4-24).

Regarding claim 10, Estes et al as modified discloses an RF transceiver module for wireless communication devices (figs. 2-3) wherein the RF transceiver IC is in packaged form (col. 5, lines 46-65).

Regarding claim 11, Estes et al as modified discloses an RF transceiver module for wireless communication devices (figs. 2-3) wherein the multi-layered substrate is a low temperature co-fired ceramic substrate (col. 4, lines 20-55; col. 6, lines 36-63).

Claims 12-14 are similar in scope to claims 1-5, and therefore are rejected under a similar rationale.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marceau Milord whose telephone number is 571-272-7853. The examiner can normally be reached on Monday-Thursday.

Art Unit: 2618

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MARCEAU MILORD

Marceau Milord
Primary Examiner
Art Unit 2618

MMilord
MARCEAU MILORD
PRIMARY EXAMINER

5-24-06